King County Noxious Weed Control Program

Our Mission

Provide benefits to the environment, recreation, public health and economic resources of King County by preventing and minimizing harmful impacts of noxious weeds.

2015 ANNUAL REPORT

King County

Department of
Natural Resources and Parks
Water and Land Resources Division

Noxious Weed Control Program
206-477-9333
kingcounty.gov/weeds

2015 KING COUNTY NOXIOUS WEED CONTROL

PROGRAM STAFF

Program Manager: Steven J. Burke
Communications: Sasha Shaw
Office Administration: Denise Liguori

Noxious Weed Specialists

County Lands: Roy Brunskill
State and Federal Lands: Tricia MacLaren
Aquatic Weeds: Ben Peterson
Riparian Projects: Justin Bush

Regional and Project Leads:
Matt Below
Mattia Boscolo
Edward McFarlin
Mary Fee
Karen Peterson
Patrick Sowers
Eric Walker
Maria Winkler

Project Assistants:
Justin Brooks
Sayward Glise
Randy Ladowski
Joe Neumann

Field Assistants:
Erin Haley
Kirk Massee

Special thanks to:

Patrick Sowers and Ben Peterson for data analysis; Sasha Shaw for data analysis, content management and editing; and Megann Devine for layout and design.

For more information:

206-477-9333 or **kingcounty.gov/weeds**

2015 KING COUNTY NOXIOUS WEED CONTROL BOARD

The King County Noxious Weed Control Board sets County weed control priorities, annually adopts the County weed list, and administers the King County Noxious Weed Control Program throughout the County according to the requirements of the State Noxious Weed Law (RCW 17.10). The Board was activated by the King County Council on August 7, 1992 in response to a citizen's petition to the Council. The Board produces this Annual Report on the performance and activities of the Noxious Weed Control Program.

The Board is comprised of five volunteers representing five districts within the County. Each member is appointed by the King County Executive and confirmed by the King County Council. Also, one staff person from Washington State University (WSU) Extension serves as a nonvoting member.

The Program thanks the following Board Members for serving on the King County Noxious Weed Control Board in 2015:

Jennifer Andreas, WSU Extension
John Browne, Board District 3
Becky Chaney, Board District 2
Scott Moore, Chair, Board District 1
Eldon Murray, Board District 5
Grace Stiller, Board District 4

Contents

Letter from the Board

Thank you to everyone who has made this another important year for providing benefits to King County's precious landscapes through noxious weed control.

Photo by Sayward Glise

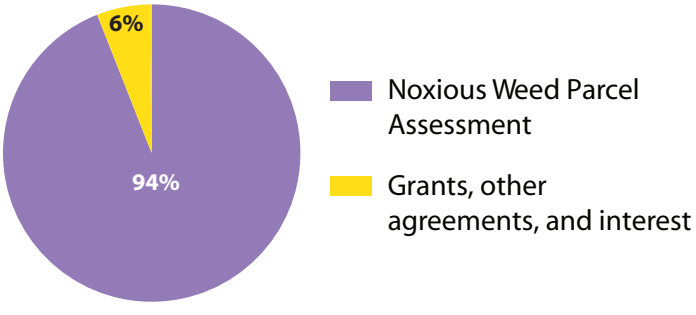
Noxious weeds and other invasive plants cause serious problems to the environment, economic activity, recreation and human health. The King County Noxious Weed Control Board provides citizen oversight to address this important issue through the operations of the King County Noxious Weed Control Program. Our role is to ensure the mission of the Program is being achieved cost-effectively. I think this report clearly demonstrates that this is indeed the case.

Sustainable management of King County's stunning landscapes is a journey, not a destination. The Noxious Weed Control Board seeks to ensure that the Program provides continuing, long term benefits from noxious weed control and related land stewardship activities. Effective engagement and participation of landowners and communities in the stewardship of their lands is the cornerstone for the success of our program. The 2015 Annual Report summarizes the key achievements that you have made possible from your participation.

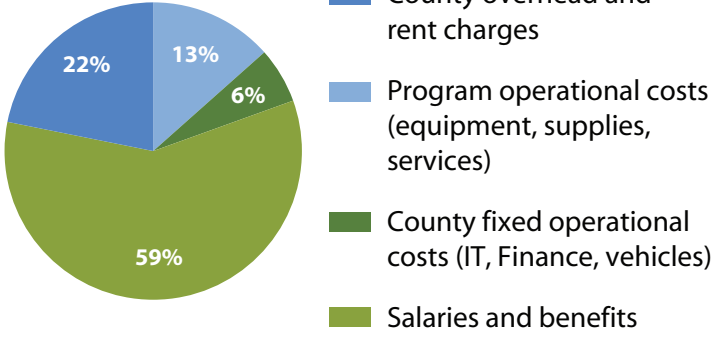
We hope you enjoy reading about our work, and look forward to working with you again over the coming months as we do even more together to steward King County's lands. Thanks again for your interest and support for this important work.

Scott Moore, Chair
King County Noxious Weed Control Board

Program Revenue: $2,452,369



Program Expenditure: $2,353,676



Program Goals

- Educate the community about prevention and management of noxious weed infestations and increase participation in noxious weed control activities.
- Eradicate existing infestations of Class A noxious weeds.
- Control regulated Class B and Class C noxious weed infestations to below levels of significant impact.
- Implement early detection and rapid response for infestations of new noxious weeds with limited distribution.
- Support the management of widespread noxious weeds and facilitation of more effective, coordinated landscape-scale control efforts.

Major Results towards Achieving Program Goals

King County enjoys vibrant urban centers in close proximity to unspoiled natural areas, stunning waterways and productive agricultural and forest lands. These assets were produced by many years of leadership and hard work by King County residents, businesses, community organizations, and elected representatives.

All our hard won natural assets however can be seriously degraded by noxious weed invasion. The King County Noxious Weed Control Program works with residents to make sure this does not happen. The King County Noxious Weed Control Program uses the following approaches to effectively deal with noxious weeds:

- Work to prevent their introduction in the first place
- Create monitoring systems for detecting new infestations
- Move rapidly to eradicate newly detected invaders
- Manage more widespread weed problems strategically to minimize impacts
- Build a knowledgeable and engaged community that actively works to reduce noxious weed impacts in the County

2015 Major Program Activities

13,723 infestations surveyed*
5,687 property owners contacted*
13,436 infestations controlled*
325 new infestations found
140 acres of weeds controlled by property owners
294 acres of weeds controlled by Program*
67 vs 33 percent of sites controlled by owner vs Program*

*Includes knotweed

In 2015, the Program worked directly with more than 5,600 landowners and public agencies with noxious weeds on their properties and achieved voluntary control on 98 percent of the infestations of state-regulated weeds.

To monitor and locate state-regulated noxious weeds in 2015, the Program surveyed weed sites on 11,486 properties and rights-of-way. In addition to monitoring for regulated noxious weeds, the Program surveyed and controlled invasive knotweed on major rivers in King County. Including this work, over 13,000 noxious weed sites were surveyed and controlled in 2015.

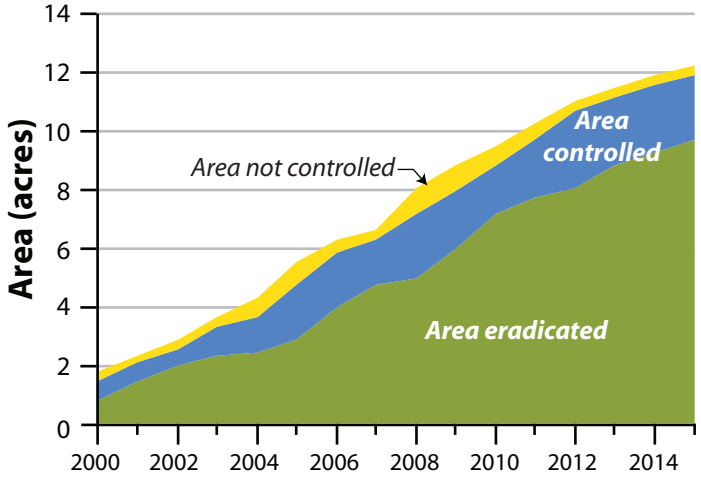
To date, the Program has achieved eradication of 79.6 percent of the total area historically infested by regulated noxious weeds on properties in King County found since 1996, or approximately 955 acres entirely cleared of noxious weeds. Overall, 37 percent of all the sites tracked by the Program are considered eradicated, meaning they have had no noxious weeds present for three or more years. Each of these 6,219 eradicated sites represents a high level of achievement and sustained effort by the Program and the property owners of King County.

In 2015, Program staff responded to over 700 public inquiries and reports of noxious weed infestations. They also provided technical assistance and outreach on noxious weeds through the Program's website, informational materials and email alerts, workshops, presentations and community events.

2015 Education & Outreach Achievements

36 Information booths, outreach events
65 Workshops, presentations, field trips
714 Responses to public inquiries and weed reports
2,297 Newsletter subscribers
10,222 Contacts at outreach events and workshops
11,156 Brochures and bulletins distributed
415,676 Website visits

Control of Noxious Weeds In King County



Major Noxious Weeds in King County: 2015 Snapshot

Top Class A Weeds in King County

Garlic Mustard
483 active sites [2]

6% eradicated [1]
100% controlled [1]

Giant Hogweed
341 active sites [3]

83% eradicated [4]
100% controlled [1]

Milk Thistle
65 active sites [1]

25% eradicated [4]
100% controlled [1]

Goatsrue
30 active sites [1]

30% eradicated [1]
100% controlled [1]

[1] No change from 2014
[2] More sites than 2014
[3] Fewer sites than 2014
[4] Percent up from 2014
[5] Percent down from 2014

Top Regulated Class B Weeds in King County

Tansy Ragwort
5,095 active sites [2]

33% eradicated [4]
98% controlled [4]

Purple Loosestrife
1,152 active sites [3]

21% eradicated [4]
96% controlled [4]

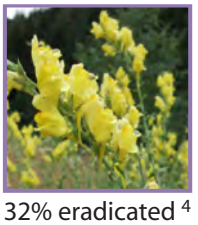
Spotted Knapweed
629 active sites [3]

44% eradicated [4]
100% controlled [4]

Orange Hawkweed
514 active sites [2]

16% eradicated [5]
100% controlled [1]

Dalmatian Toadflax
337 active sites [3]



32% eradicated [4]
99% controlled [1]

Yellow Hawkweed
341 active sites [2]

16% eradicated [4]
98% controlled [5]

Sulfur Cinquefoil
313 active sites [3]

32% eradicated [4]
99% controlled [1]

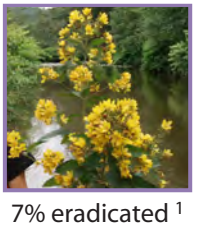
Diffuse Knapweed
252 active sites [3]

33% eradicated [4]
100% controlled [4]

Policeman's Helmet
193 active sites [2]

57% eradicated [1]
100% controlled [4]

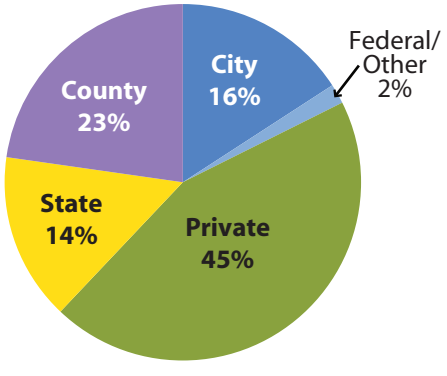
Garden Loosestrife
179 active sites [3]



7% eradicated [1]
97% controlled [4]

Infestations by Property Type

Percent of sites in each category



Definitions (RCW 17.10, WAC 16-750)

Eradicate:

Completely eliminate a noxious weed within an area of infestation.

Control:

In a given year, prevent seed production and dispersal of parts capable of forming new plants.

Class A:

Eradication required by State Law due to limited distribution in the state and potential significant impact to the state's economy and environment.

Regulated Class B:

Control required by State Law. Class B weeds are regulated in areas of the state where they are limited in distribution to prevent further spread.

Photo by Maria Winkler

County Lands Weed Control

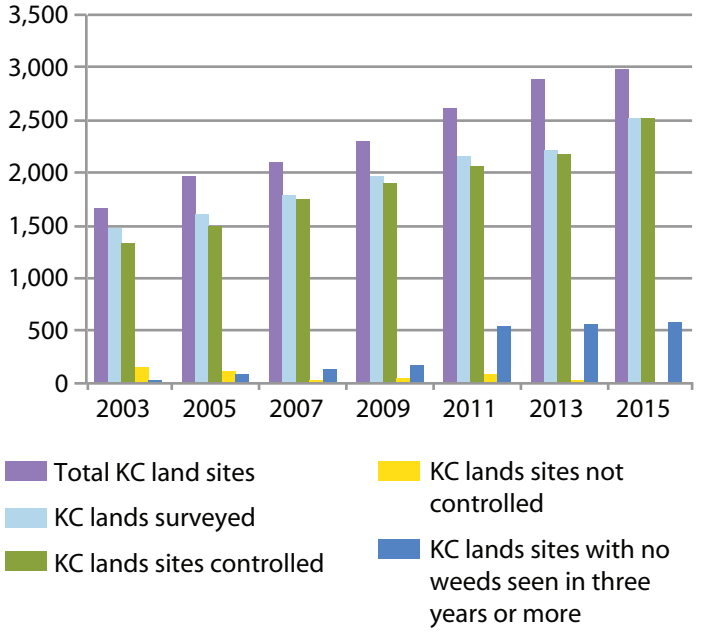
King County is one of the largest land managers in the County and is responsible for land management activities on over 4,200 properties and nearly 1,500 miles of road right-of-way. County agencies with weed control responsibilities are Department of Transportation (Road Services Division and Metro Transit Division), Department of Natural Resources and Parks (Parks and Recreation Division, Water and Land Resources Division, Solid Waste Division and Wastewater Division) and the Department of Executive Services (Facilities Management Division). County land managers have the same noxious weed control responsibilities as local municipalities, state agencies and private property owners.

There were 2,606 noxious weed sites known to be on King County managed lands in 2015. The Program surveyed 2,522 of these sites and noxious weeds were controlled on 2,518, almost 100 percent. This significant accomplishment often required multiple visits to assure excellent control. The Program received only one complaint of tansy ragwort on a county-managed road right-of-way in 2015, and this was resolved effectively.

Control of Regulated Noxious Weeds on County-Managed Lands

Division	Number of Sites Surveyed	Percent Sites Controlled
Facilities Management	12	83%
Parks/Open Space	186	100%
Rivers	42	100%
Roads	2,153	99%
Solid Waste	9	100%
Stormwater	110	100%
Transit	6	100%
Wastewater	4	100%

Noxious Weeds Sites on King County Lands



2015 was another busy season for garlic mustard control on County lands. Staff found an additional 21 county-managed properties with garlic mustard infestations. All infestations were surveyed and controlled at least twice and some were visited three times during the season. County land manager awareness of garlic mustard on the Cedar River resulted in improvement to capital project processes. Consultations during the design/construction phase verify if noxious weeds are in the project area. If they are present, agencies implement mitigation actions to control and contain the weeds on the project site.

King County Parks continued its considerable effort to not only control regulated noxious weeds but to control significant areas of non-regulated noxious and invasive weeds as well.

Non-Regulated Noxious Weeds Controlled by King County Parks and Recreation Division

Weed Name	Number of Park Sites	Acres Controlled
Blackberry	65	180
Butterfly Bush	18	20
Common Teasel	11	7
English Holly	17	20.5
English Ivy	18	8.6
Knotweed	70	75
Poison Hemlock	8	5
Scotch Broom	15	34
Thistle	35	40
Other	30	12

Photo by Tricia MacLaren

State and Federal Lands

The state of Washington and the federal government have more than 3,700 parcels within King County, comprising 38 percent of its area. In 2015, there were 239 active regulated noxious weed sites on state and federal properties, 14 of which were new sites. Staff surveyed all of the active sites and verified control was achieved on 98 percent of the sites and 83 percent of the area infested.

Washington also maintains 18 state highways that travel through King County covering 368 linear miles. In 2015, program staff surveyed 1,661 regulated noxious weed sites on state highways. Working with the Washington State Department of Transportation (WSDOT), 99 percent of these sites were controlled.

Highlights of the Program's successful working relationships with state and federal land managers in 2015 include:

- Controlled significant areas of noxious weeds in state-owned riparian areas
- Development of collaborative working relationship with the United States Department of Commerce for control of loosestrife on Lake Washington and Portage Bay
- Partnered with U.S. Forest Service to survey and control noxious weeds in the Mt. Baker-Snoqualmie National Forest
- Achieved successful control on state highways of European hawkweed, rush skeletonweed and Dalmatian toadflax
- Fostered collaborative working relationship with Washington State Department of Fish and Wildlife, Washington Department of Natural Resources and Washington State Parks and Recreation for successful control of noxious weeds on state parcels within the County

Cities and Port of Seattle

Program staff surveyed and monitored noxious weed control on municipal roads and property of the County's 39 cities and the Port of Seattle, working collaboratively to control noxious weeds. Overall in 2015, Program staff surveyed for and ensured control of 1,350 municipal and Port of Seattle noxious weed infestations.

Highlights of how local municipalities and the Port of Seattle contributed to the successful control of noxious weeds in 2015:

- The Port of Seattle worked with Program staff to control common reed on the Duwamish River and consulted with Program staff about aquatic weeds at the Fisherman's Terminal.
- The City of Auburn was highly successful in controlling tansy ragwort along its road right-of-way with minimal prompting from our program.
- The Seattle Department of Transportation and the City of Lake Forest Park both did an effective job controlling garlic mustard along their road rights-of-way.
- The City of Bellevue's Well Kept Youth Program effectively controlled policeman's helmet and tansy ragwort in the city's parks and open space areas.
- The City of Kirkland worked closely with the Program on a project along Juanita Creek controlling policeman's helmet and the city has begun studying its capacity to control knotweed along the creek as well.

2015 Status of Program Initiatives for 2015-16 Biennium

	Initiative	Goal	2015-16 Target	2015 Status
	Base program	Achieve control of regulated noxious weeds and engage County residents as active participants in the effort to reduce impacts of noxious weeds.	Maintain past performance levels including 12,000 sites surveyed, 97 percent sites controlled, 4000 property owners contacted, 95 outreach events/classes	13,723 infestations surveyed, 98 percent sites controlled, 5687 property owners contacted or assisted, 101 outreach events/classes
1	Increased control for regulated weeds	Survey and control all known regulated noxious weed sites.	Reach 850 additional sites. Survey all known sites with regulated weeds.	Surveyed 96% of known sites, 101 more than in 2014.
2	Garlic Mustard infestation control	Increase survey and control efforts for garlic mustard infestations to meet increased amount in the County.	Survey and control a minimum of 17 acres, 379 sites as well as any new sites discovered.	Controlled 483 infestations totaling 16.2 acres (including 38 new sites). Surveyed 709 acres.
3	Aquatic weed control	Assist landowners on lakes and rivers in meeting their noxious weed control responsibilities by providing weed surveys, planning, education, technical assistance and direct weed control services.	Develop 1-2 Integrated Aquatic Vegetation Management Plans (IAVMPs); survey 3-6 additional lakes; assist landowners with priority aquatic weed control; coordinate volunteers.	Initiated one IAVMP; surveyed 4 additional lakes; controlled 461 priority aquatic noxious weed infestations; trained and coordinated lake volunteers.
4	Cooperative weed management in riparian areas	Continue and expand grant-funded cooperative riparian weed control projects on major rivers and key watersheds of the County.	Survey 39 river miles, 625 acres. Control 675 sites. Contact 500 property owners. Hold 2 to 3 home-owner classes and one professional workshop.	Surveyed 143 river miles, 2,166 acres. Controlled 2,237 sites. Assisted 1,091 property owners. Held 5 homeowner and 3 professional workshops.
5	Equity and social justice and outreach to non-English speakers	Begin to address the County's Equity and Social Justice Goals, including the Executive's Translation Order, and helping underserved communities.	Develop 1-2 non-English outreach materials. Translate 2-3 program informational materials. Hold 1-2 community outreach events with limited English or underserved groups. Assist 40-60 low-income residents.	Created poison plant poster for community gardens in 7 languages; translated 2 fact sheets; poison plant press release in 2 languages, staffed 4 community outreach events and presentations; assisted 80 qualifying landowners.
6	IT enhancements for greater work efficiency	Increase efficiency of core work processes through an overhaul of program databases, wider use of mobile data collection, and streamlining the program's data processes.	Integrate data into single database; develop mobile data collection; manage program databases, create maps, analyze data; reduce time field staff spend in the office	Existing databases are in progress of being cleaned and formatted, new GIS layers are 80% complete, mobile data collection was successfully tested on a trial basis.
7	Weed Watchers Citizen Participation Program	Further develop the Weed Watcher Citizen Participation project and expand it to other recreational and backcountry areas of the County.	Train 15-25 new volunteers who survey for weeds on 20-25 trails or recreation areas; improve data reporting and management processes	45 new volunteers trained, 46 trails surveyed. Partnership with PNW-IPC; improved data reporting process.

Approaching target On target Exceeds target

Special Program Initiatives for 2015-16 Biennium

In addition to funding for the continuation of base program activities, the noxious weed program received increased funding for the 2015-16 biennium in order to address several areas of significant concern and increased demand. In some cases, we expanded current program activities and in other cases we added new work programs in order to best meet the need. These efforts have been organized into seven program initiatives that are detailed in the pages following.

Initiative 1: Increased control of regulated noxious weeds

In 2015, Program staff surveyed 96 percent of all known sites with regulated noxious weeds and achieved control of 98 percent of these infestations. Using increased staffing resources, the Program was able to achieve control of regulated noxious weeds at an additional 101 sites as compared to the previous year. This increase shows that the Program has made progress towards its four year target of 857 additional sites.

Several of the processes and additional resources were not in place for the entire season in 2015 due to delays in adding additional staffing. It is anticipated that more progress will be made in 2016 because the additional staffing will be in place for the entire season. Also, processes that were begun in 2015 will produce more results after an additional season. Adjustments are also planned in 2016 to more effectively deploy the additional staffing resources to target infestations that were not controlled or surveyed in 2015.

Strategies used in 2015 to increase the control of regulated noxious weeds include:

- Survey and control of residential giant hogweed and urban tansy ragwort sites by project assistants.
- Survey and control of difficult to access portions of the Sammamish River shoreline that contain purple and garden loosestrife by program staff.
- Increasing staff resources to allocate more time in the field to survey and control weeds. In addition to working longer seasons, weed specialists were encouraged to find creative ways to re-schedule and organize their work in order to increase their effectiveness and efficiency.


Photo by Matt Below

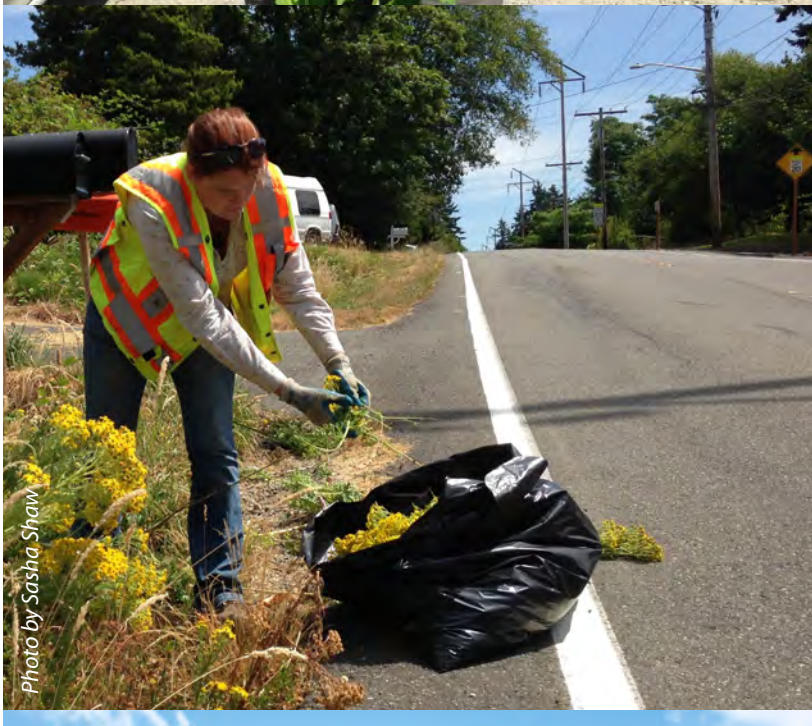


Photo by Sasha Shaw

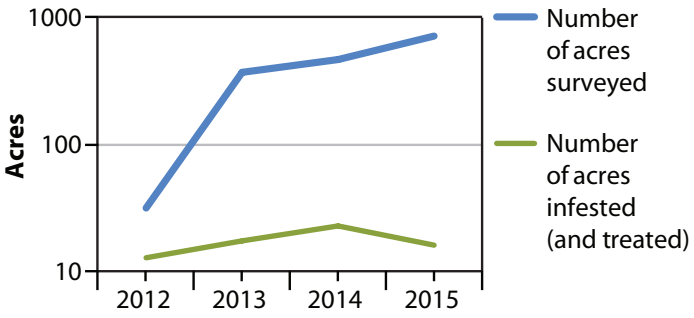

Photo by Ben Peterson

Initiative 2: Increased control of garlic mustard

Garlic mustard (*Alliaria petiolata*) is a significant threat to natural ecosystems of King County and the State of Washington and is a regulated Class A noxious weed.

First discovered in 2000 in a few Seattle parks, by 2014 the documented locations had increased to 445 sites across King County, including major infestations on the Cedar River. It became clear that to achieve eradication the Program would need to develop a comprehensive project to contain the alarming spread of this weed in King County. In order to meet this need, King County Council provided additional funding in 2015 to expand the Program's garlic mustard control efforts.

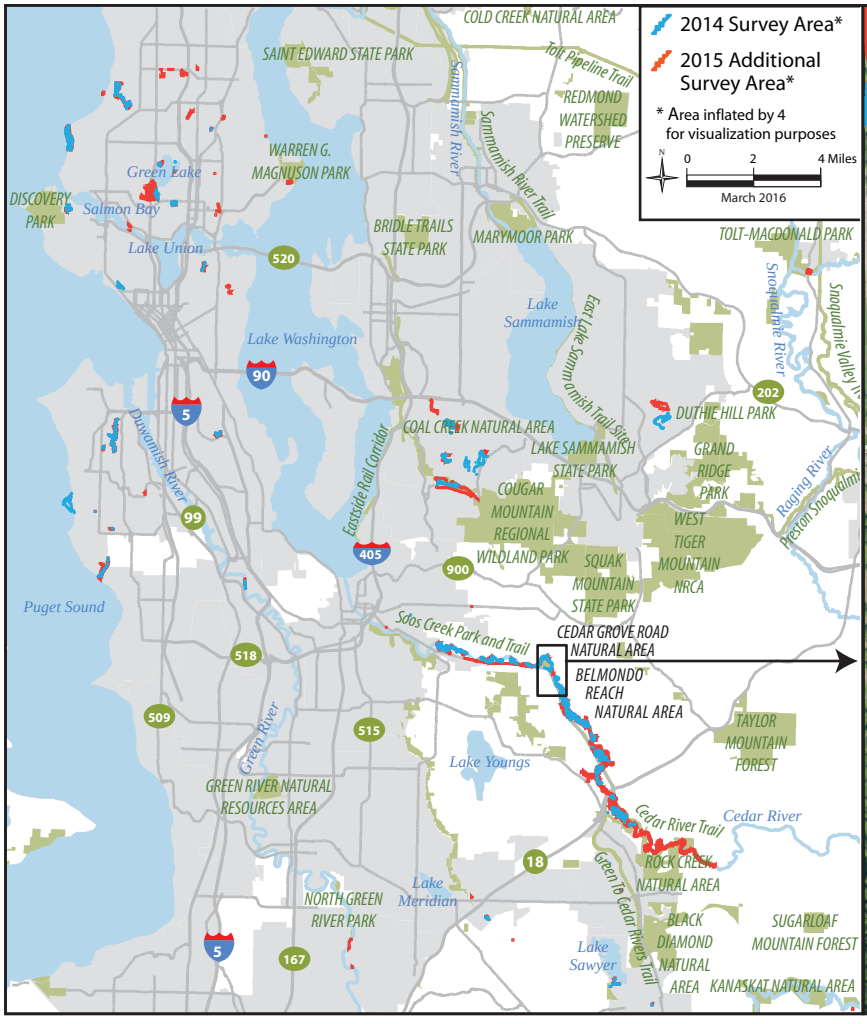
Garlic Mustard Survey & Treatment



In 2015, the Program significantly increased its search area for garlic mustard, surveying 49 percent more area than in 2014. This increased focus on detecting garlic mustard helped to ensure it did not spread outside of the known areas of infestation. Of the 709 acres surveyed, 693 acres were identified as being garlic mustard free.

Overall, the Program documented a total of 16.2 acres of garlic mustard infestation in King County spread over 483 properties and roadsides. Through a collaborative effort with land managers and landowners, the Program was able to prevent seed production on 100 percent of the sites. As a result of the Program's effort and cooperation from partners and landowners, there has been a 28 percent decrease in area infested with garlic mustard from 2014 to 2015. With this new initiative to increase the effort on garlic mustard survey and control, we are optimistic that the goal of county-wide control with eventual eradication is possible with the continuation of the current level of resources and effort.

Garlic Mustard Survey Area Comparison 2014-2015



Belmondo Reach Natural Area

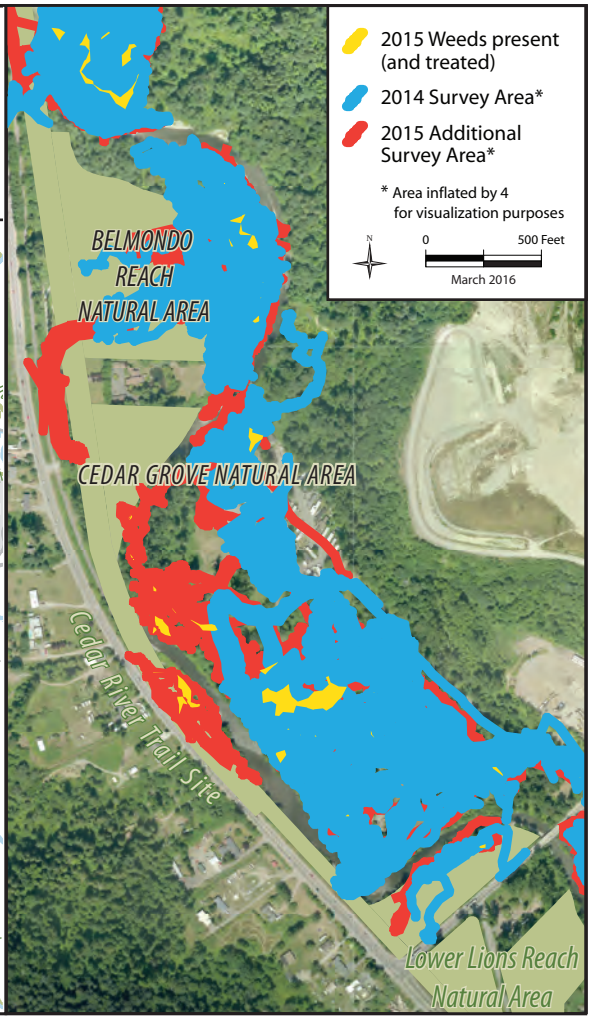



Photo by Ben Peterson

Initiative 3: Aquatic Weed Control

During 2015, 98 percent of all documented Class A and regulated Class B aquatic noxious weed sites were surveyed, and 94 percent of these sites were controlled, preventing spread. The majority of these infestations are purple loosestrife (1,209 sites) and garden loosestrife (182 sites). Control methods used included aquatic herbicide, hand pulling, biocontrol, and a combination of these methods where that was most effective. Property owners controlled 67 percent of the sites and program staff or contractors controlled 33 percent of the sites.

Intensive surveying is an important program activity to achieve aquatic weed control. This facilitates early detection of new infestations and a more rapid, effective control response. In 2015, program staff surveyed 32 different small lakes and large rivers, as well as many small stream and wetland sites. In addition, the Lake Weed Watcher volunteer program continued in 2015, in which residents are trained to survey for high priority aquatic weeds in their lakes. The program trained 11 volunteers who contributed 73 hours conducting 10 surveys on seven different lakes. In addition, education and outreach on aquatic weeds included five presentations and many consultations and responses to information requests.

2015 Aquatic Weed Control Activities	
7 lakes surveyed by Weed Watcher volunteers	
32 lakes and large rivers plus many streams and wetlands surveyed by Program staff	
58 miles of the Snoqualmie and Sammamish rivers and smaller creeks surveyed for aquatic weeds	
3 Class A aquatic weed sites controlled	
1,357 Class B aquatic weed sites controlled	
Aquatic Weed	**Percent of Sites Controlled**
Purple Loosestrife	96%
Garden Loosestrife	97%
Common Reed	100%
Hairy Willowherb	100%
Parrotfeather	86%
Reed Sweetgrass	100%
Spartina sp. (Common Cordgrass)	100%
Floating Primrose-willow	100%
Yellow Floating-heart	100%

New aquatic programs and enhancements

The following achievements were made possible due to additional funding for aquatic weed control in 2015.

- The completion of an increased amount of aquatic weed survey and control work due to increased staffing
- Initiated development of an Integrated Aquatic Vegetation Management Plant (IAVMP) for Shadow Lake, located in un-incorporated King County. A survey of aquatic weeds was completed and the first community planning meeting was held, with 24 people attending and showing good support for the project.
- Four additional lakes were surveyed in 2015: Lake Retreat, Bass Lake, Steel Lake, and Beaver Lake.
- Provided technical assistance on fragrant water lily control techniques at a Beaver Lake Community meeting.
- Direct assistance in the form of purple loosestrife control was given to two hundred landowners at Lake Kathleen (manual control) and Lake Desire (herbicide control with landowner permission).
- To achieve better control of purple and garden loosestrife plants on the shores of Lake Sammamish, a postcard was sent to 1,005 Lake Sammamish waterfront property owners, asking for control of the plants. The cities of Sammamish, Redmond, Bellevue, and Issaquah were consulted to make sure the control method requested in the postcard fell within those cities' requirements. A follow-up survey found a 77 percent decrease in garden loosestrife flowering plants (230 sites) and a 61percent decrease in purple loosestrife flowering plants (37 sites), as compared to a survey that was done in 2010.

Initiative 4:
Cooperative Weed Management in Riparian Areas

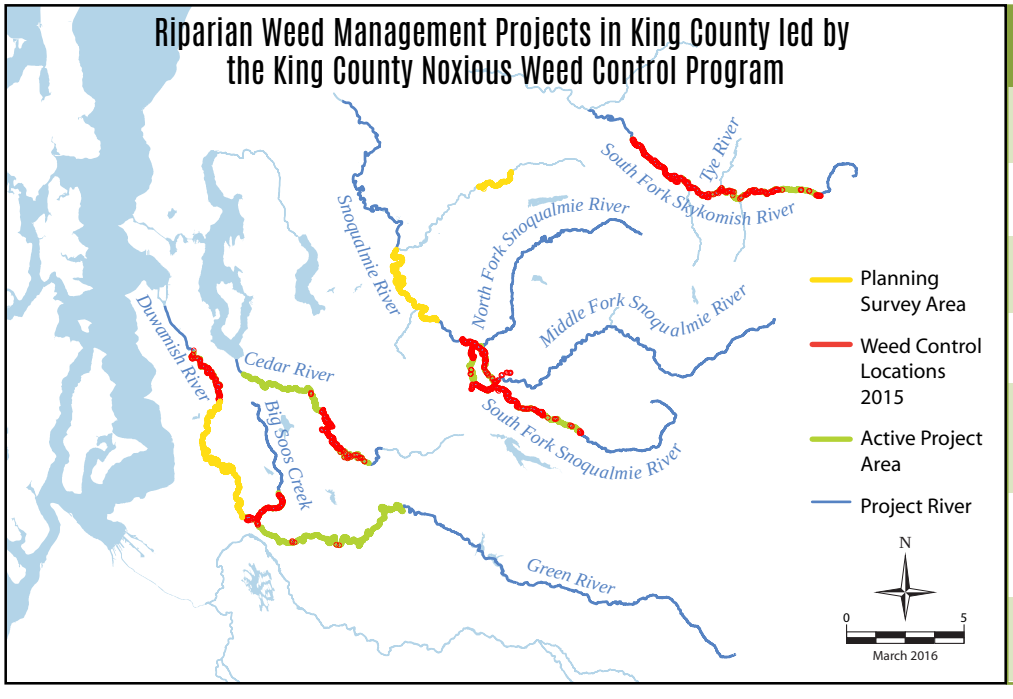
Riparian noxious weeds, including the invasive knotweed species, are one of the greatest threats to the riverine environments in King County. Since 2004 the Program has treated knotweed and other riparian species in order to reduce the impacts on habitat, improve water quality and help the salmon recovery efforts through a series of cooperative, multi-jurisdictional, public-private projects. The project's goals are to improve infested areas through weed control and re-vegetation, and to protect uninfested areas.

Historically, these projects had been funded primarily through competitive grants, but in 2015 the Program received additional internal funding in order to provide stable, predictable funding to sustain the projects even when grant-funding was not available. This base funding has been used to continue the control of knotweed in areas that no longer receive grant funding, in addition to allowing the Program to leverage external funding for new areas. In addition to the new budget initiative funding, external sources for 2015 included the United States Environmental Protection Agency, the Washington State Department of Ecology, and the King County Flood Control District.

In order to ensure sustainable results and to provide long term stewardship and care of the restored lands, the Program fosters public and private partnerships and strives for the voluntary participation of landowners on the rivers.

In 2015, the Program's internal King County partners included the Rivers and Floodplain Management Section, the Road Services Division, and the Parks and Recreation Division. Externally, the Program partnered with Seattle Public Utilities, the Snoqualmie Tribe, Forterra, Mountains to Sound Greenway Trust, Sound Salmon Solutions and the cities of Snoqualmie, Auburn, Maple Valley, Tukwila, Seattle, Mercer Island, and Skykomish.

Private property owners also contributed to the achievements of these riparian projects. Over 60 County residents attended the Program's knotweed control workshops held in Covington, Enumclaw, North Bend, Renton, Tukwila, and Mercer Island. Participants were taught weed control techniques and became qualified to borrow a knotweed injector from the Program in order to control plants on their own property.



2015 Riparian Accomplishments	Target	Actual
River miles treated or surveyed	39	143
Acres surveyed for riparian weeds	625	2,166
Acres of riparian weeds controlled	n/a	191
Field days spent on survey and control	n/a	354
Washington Conservation Corps field days	n/a	47
Property owners receiving project assistance	500	1,091
Homeowner technical workshop	2 to 3	5

Initiative 5: Equity and Social Justice Initiative for limited English and low-income residents

Noxious weeds directly impact people, so there is a potential for inequity in how and where education and services are offered to County residents by our program. The program is working to ensure that education and outreach efforts are available to all residents, especially underserved communities. We are reaching out to traditionally underserved communities in King County through effective community engagement, increased educational opportunities, and direct assistance. Strategies we are using include:

- Developing community education and outreach events to promote two-way community engagement
- Translating vital documents into the languages used by County residents
- Providing noxious weed control assistance to elderly, disabled, and low-income landowners, including all landowners participating in the King County Property Tax Exemption and Deferral Program

2015 Progress Report

Goal 1: Increase services and accessibility for limited English populations

- Cross-referenced census data on languages spoken in households with program data on noxious weed locations to prioritize translation of information on different weed species
- Developed poison-hemlock alert posters in Chinese, Russian, Spanish, Tigrigna, Amharic, Somali, and Vietnamese; they have been placed in 11 community P-patch gardens in Seattle
- Produced press release on poisonous noxious weeds in English, Vietnamese and Spanish targeted toward community media in urban neighborhoods with high levels of these weed species
- Translated giant hogweed factsheet into Vietnamese, translated poison-hemlock factsheet into Spanish
- Staffed outreach booths at the community events 'Película Bajo las Estrellas' in White Center and Mother Africa Cultural Fair in Kent
- Presented information in Spanish at the 2015 Green Gardening workshop Biología y Cuidado de los Arboles (Tree Biology and Care) and at the Duwamish Valley Youth Corps workshop in South Park.

Goal 2: Improve and increase service delivery for low-income, disabled and senior citizen residents

- Cross-referenced program property records with the King County Assessor's database of tax exempt property owners to identify additional candidates for assistance.
- Provided direct assistance by controlling noxious weeds for 80 qualifying landowners on privately owned parcels in 2015 (18 more than in 2014).

Photo by Steve Burke


Photo by Roy Brunskill

Initiative 6: LEAN Improvements: database overhaul and mobile data collection

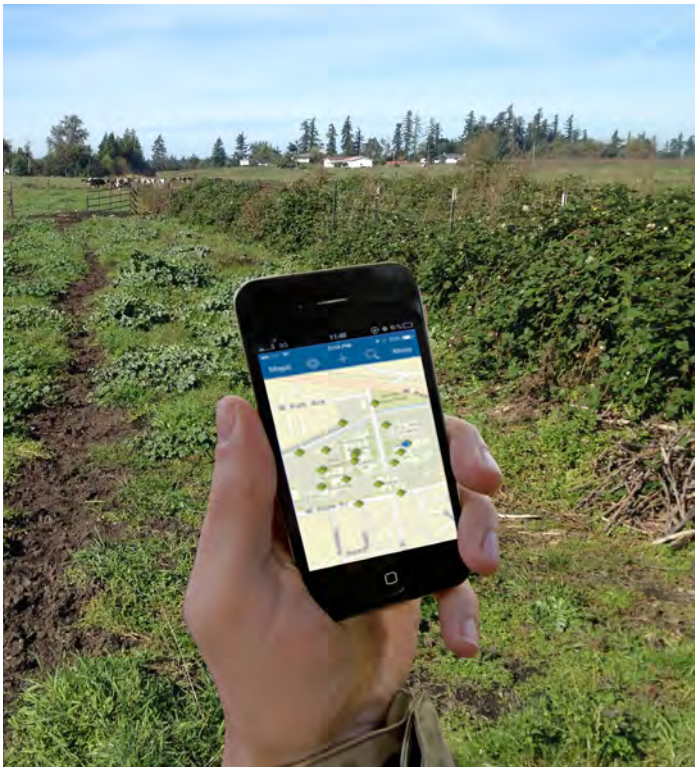
Quality data is crucial to the Program for setting priorities, assessing the effectiveness of weed control methods, and for analyzing spread of new weeds. The Program has identified potential significant time savings in how it collects and manages noxious weed data. Streamlining our existing data systems and incorporating mobile data collection is expected to give field staff more time for finding new infestations and assisting landowners.

The strategies we are using to achieve increased data efficiency include:

- Utilize expertise of King County's internal database and geographic information systems specialists
- Format and merge existing databases instead of creating all new designs in order to save time and expense, as well as to maintain continuity with valuable historical data
- Develop a mobile data collection system that seamlessly integrates with our database.

2015 Progress

- Existing databases are in progress of being cleaned and formatted
- New GIS layers are approximately 80 percent complete
- Mobile data collection was successfully tested on a trial basis.



Initiative 7: Weed Watcher Citizen Participation Initiative

This program engages County residents in the effort to stop the spread of invasive plants into the wilderness and recreational areas of the County in order to protect the public investment in preserving these areas. The program also increases public involvement in the stewardship of public resources. Volunteers survey and document invasive weeds in areas such as trails and backcountry that typically do not get surveyed due to the limited resources of state, federal and County land managers.

In 2015, in order to build on and expand our existing program, we initiated a partnership with the Pacific Northwest Invasive Plant Council (PNW-IPC) and added staff time to support the Weed Watcher program.

Accomplishments for the Weed Watcher Program in 2015 included:

- Supported volunteers and managed and developed additional volunteer training materials
- Improved the online interface through a customized data entry tool integrated with the national EDDMapS application
- Coordinated with existing partners including Washington Department of Natural Resources, U.S. Forest Service, Mountains to Sound Greenway Trust and The Mountaineers
- Initiated a new partnership with PNW-IPC and began to work with King County Parks

Weed Watcher Participation Report 2015

Measure	Target	Actual
New volunteers trained	15-25	45
Trails surveyed	20-25	46
Group hikes for volunteers	2	7
Group hike participants	10	37
Group hike participants new to the program	n/a	19

Photos by Karen Peterson

Biological Control Activity Report

The Program partners with Washington State University Extension's Integrated Weed Control Project (IWCP) to identify weed species and infestations that can be effectively addressed through biological control. For noxious weed species that have approved biological control agents available, this method can be a cost-effective way to reduce impacts over the long term, especially when infestations are large and/or remote and where there are insufficient resources available for other more expensive methods.

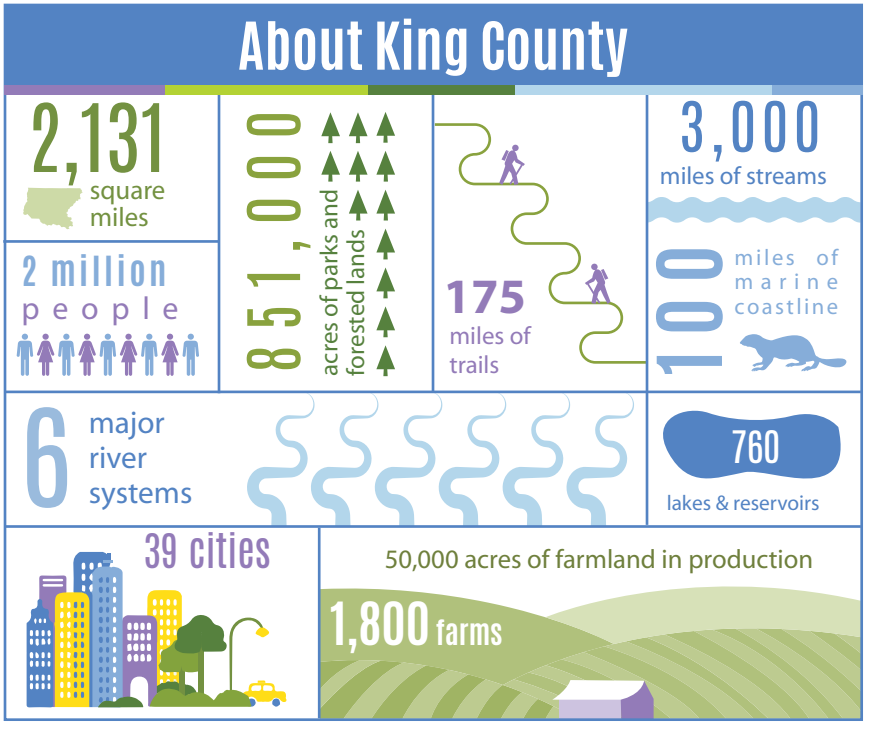
In 2015, program staff worked with the IWCP to carry out 32 releases of a total 8,207 biocontrol agents to target six noxious weed species at 19 locations. See the table below for details.

Definitions

Biological Control (or biocontrol): the control of a pest by the introduction of a natural enemy or predator

Approved Biocontrol Agent: an insect or other organism that has been approved for use in the United States by the United States Department of Agriculture - Animal and Plant Health Inspection Service for the control of a particular pest species

Noxious Weed	Biocontrol Agent(s)	2015 Locations
Scotch Broom	*Bruchidius villosus (seed-feeding beetle)*	Lester Reload and Tacoma Water Green River Watershed Humphrey Race Track Discovery Park, Seattle Maury Island (old Glacier Pit)
Spotted and Diffuse Knapweed	*Bangasternus fausti* (seed-feeding weevil) *Cyphocleonus achates* (root-feeding weevil) *Larinus minutus* (seed-feeding weevil) *Larinus obtusus* (seed-feeding weevil)	White River King County Buyout east of Auburn Former Miles Sand and Gravel Quarry in Auburn Sunday Creek, Tacoma Water Green River Watershed Highway 2, MP 61 Federation Forest Muckleshoot Stuck River Road and power line area
Purple Loosestrife	*Galerucella spp.* (foliage-feeding beetle) *Hylobius transversovittatus* (root-feeding weevil) *Nanophyes marmoratus* (flower-feeding weevil)	May Creek, Renton area UW Bothell Campus wetland Bellefield Business Park, Mercer Slough, Bellevue Snoqualmie River Parcel
Dalmatian Toadflax	*Mecinus janthiniformis* (stem-boring weevil)	BNSF Right-of-Way, Lester
Canada thistle	*Urophora cardui* (stem gall fly)	Page's Flats, Tacoma Water Green River Watershed



King County
Department of Natural Resources and Parks
Water and Land Resources Division
Noxious Weed Control Program

For more information: 206-477-9333
or kingcounty.gov/weeds

Alternative formats available
206-477-4800 TTY Relay:711

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